



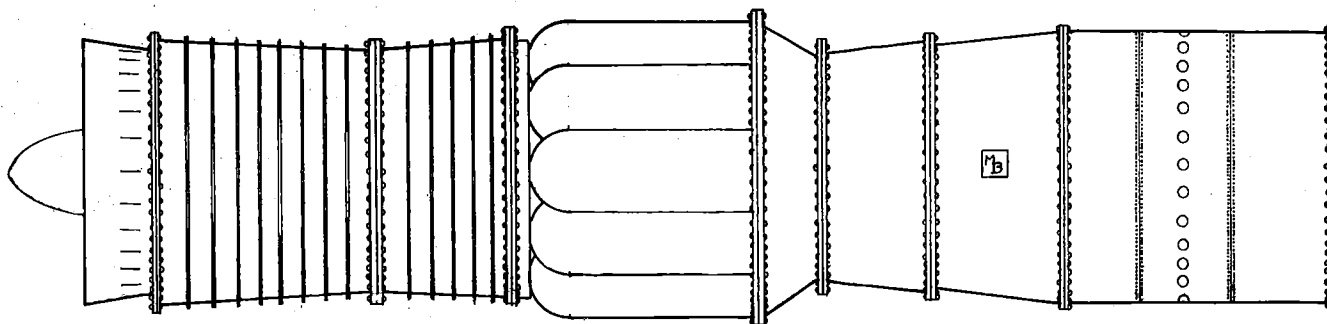
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TECHNICAL**DATA****BULLETIN NO.****188-2**

TURCO PRODUCTS • A DIVISION OF PUREX CORPORATION, LTD. • WILMINGTON, CALIFORNIA 90744 • OFFICES IN ALL PRINCIPAL CITIES

TURCO® 4008 & 4008-3

JET ENGINE CLEANING COMPOUNDS



The Turco 4008 Compounds (4008, 4008-3) are specialized chemical products for high temperature oxide and scale removal from jet engines, super alloys, and heat treated stainless steel.

CHARACTERISTICS

Turco 4008 and 4008-3 are highly alkaline liquids used to condition heavy oxide scale formed on high temperature and corrosion resistant alloys for more effective removal by subsequent chemical processing.

APPLICABLE SPECIFICATIONS

Turco 4008-3 is officially approved to USAF Specification MIL-D-26549, Amd. 1.

HOW TO USE TURCO 4008

Step 1

Use material at full strength. Descale and condition jet engine parts for 30-60 minutes at the following temperatures:

4008:	270° - 275°F.
4008-3:	245° - 250°F.

Mechanical agitation (such as Turbulator[†] Tanks) will generally reduce the process time. Stainless steel (#304, #316, #347) equipment should be used for containing Turco 4008 solutions.

[†]U.S. Pat. 2,960,991; 2,985,436; 2,990,302; 3,048,277; 3,051,457

Rinse thoroughly using agitated overflowing dip, pressure water spray or air/water pressure rinse guns. Complete rinsing of all Turco 4008 from the porosity of the scale is necessary to obtain maximum penetration of the subsequent chemical solutions into the oxide scale.

Step 2

Chemically condition the scale deposits by processing in Turco 4338C* solution for 30-60 minutes at 2 lbs./gal. at 190° - 200°F. Rinse with pressure water or agitated overflowing dip tanks.

*U.S. Pat. 3,000,829

Step 3

Loosen and condition oxide scale by processing in Turco 4181, at 3 lbs./gal., 190-200°F. solution for 15-30 minutes. Pressure-rinse with air/water hand rinse gun to blast off the loosened oxide scale deposits.

CHEMICAL CONTROL FOR TURCO 4008

To extend the tank life of the Turco 4008 solution, preclean and delead parts, using Turco 4181 at 2 lbs./gal. at 190° - 200°F.

Operating temperatures of Turco 4008 compounds (245° - 275°F.) and solution levels should be continuously maintained by visual check every several hours.

Alkalinity and boiling points should be maintained by testing periodically, using the procedure called out in the Turco Jet Engine Cleaning Brochure. The frequency of these tests will necessarily depend on the size and rate of operation.

ALTERNATIVE DESCALING METHOD

Where the degree of metal oxidation is not severe, or where it is not imperative that all of the oxide scale be removed, Turco 4181 may be used as a somewhat less effective solution at 2-3 lb./gal., 195°F., 30-60 minutes, to replace the 4008 solution.

ADVANTAGES

Chemical Descaling using the Turco 4008/4338C Jet Engine Cleaning Process provides a **production line method** that **minimizes manhours** for hand cleaning, **reduces metal loss** on critical high temperature components, and **facilitates inspection and repair** of intricate assemblies.

The chemical solutions in this cleaning process employ the lowest effective operating temperatures to eliminate the inherent dangers encountered with descaling processes using higher temperatures. This feature also minimizes installation and operational costs.

Turco 4008 is covered by United States Patents Nos. 2,843,509, 2,992,946, 2,992,995, 2,992,997, 3,053,897 and 3,095,380.

Turco 4008-3 is covered by United States Patents Nos. 2,843,509, 2,992,946, 2,992,995, 3,053,897 and 3,095,380.

TOXICITY AND HAZARD

The Turco 4008 compounds contain potassium and phenolic bodies and operate at elevated temperatures. The conditions will produce burns on contact with the skin. Protective clothing including face shields, rubber gloves, aprons, and boots should be worn when using these materials. Refer to product label for additional precautionary information.

These materials are non-flammable and the fumes are relatively non-toxic, but venting is recommended.

Extreme caution must be exercised in adding water to these solutions. Since they operate above the boiling point of water, steam can be generated very rapidly, causing eruptions.

The information and recommendations of Turco concerning these products are based upon our laboratory tests and experience and to the best of our knowledge and belief are true and accurate. Since conditions of actual use are beyond our control, any recommendations or suggestions are made without warranty, express or implied.